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Tesla, Nikola
Tesla Nitratex Company.
n.p., n.d.
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by Tesla)

21380E

PROSPECTUS FOR MR. TESLA'S NITRATES COMPANY.

* Nikola Tesla, whose ~~inventions~~ *discoveries*

~~have formed the basis of so many~~ *inventions*
more recent practical applications of electricity, and which by
~~their world-wide recognition have given this inventor a prominent~~
~~position in the field of electricity, and by a series of discover-~~
~~ies extending over many years, and all protected by United States~~

has evolved
a new and
efficient
process for

~~in all the great countries of the world, and in a system~~
the fixation of atmospheric nitrogen, *that is, its chemical combination with*
~~the oxygen of the air, in other words, for the~~
~~production of nitrates~~

~~which, by its~~
tremendous value and wide-reaching influence, bids fair to outrank
many times his wonderful invention of the alternating current motor.

~~is a new and efficient process for the production of nitrates~~ - (over)

First, that his high-frequency electric discharges in
the atmosphere give in a much more effective degree a peculiar
electric chemical stress, which brings about this most difficult
of combinations; a stress which all workers in this field have
recognized for years as being one which not only must be of
tremendous power, but of almost infinite suddenness. The time
element which has so materially interfered with the success of
other workers in this field, has, by Mr. Tesla's invention, been
almost entirely removed as an objection.

Second, Mr. Tesla's peculiar means of obtaining phenom-
enally high voltages (ranging into the millions of volts) from
apparatus of most moderate dimensions enables him to obtain the

+ He ^{early} recognized the immense possibilities of such a departure, and in an article published a few years ago he made the startling prediction that the electric fixation of atmospheric nitrogen would before long develop into an industry next to that of iron in importance. At this date nothing has been done towards commercial exploitation. Now time is his foresight is shown by the fact that in various countries enormous and large ~~investments~~ ^{investments} have been made. In Norway ~~the first plant~~ ^{the first plant} ~~was completed in 1900~~ ^{was completed in 1900} ~~and cost one quarter of a million~~ ^{and cost one quarter of a million} ~~for the production of 125,000 lbs of nitric acid~~ ^{for the production of 125,000 lbs of nitric acid} ~~and fifty million dollars have been already invested in the industry~~ ^{and fifty million dollars have been already invested in the industry} ~~for the production of these quantities of nitric acid~~ ^{for the production of these quantities of nitric acid} ~~and the cost of the~~ ^{and the cost of the} ~~method of apparatus utilizing no more than 4 per cent~~ ^{method of apparatus utilizing no more than 4 per cent} ~~of the electric energy of the current, and yielding for a~~ ^{of the electric energy of the current, and yielding for a} ~~first cost so great, that the interest and maintenance charges have rendered the~~ ^{first cost so great, that the interest and maintenance charges have rendered the} ~~business unattractive to capital.~~ ^{business unattractive to capital.}

The fixation or turning of atmospheric nitrogen ~~is effected economically~~ ^{is effected economically} ~~by lightning discharges, which~~ ^{by lightning discharges, which} ~~precipitate from four to twenty pounds of nitrogen~~ ^{precipitate from four to twenty pounds of nitrogen} ~~compounds per acre per year, an enormous amount~~ ^{compounds per acre per year, an enormous amount} ~~when considering their scarcity.~~ ^{when considering their scarcity.} This high efficiency is due to the great power and density, length and volume of the discharges, and instant cooling, resulting therefrom.

If these ideal requirements are fulfilled in the new ^{and in the right of years of labor and in cost} ~~process~~ ^{process} ~~propounded by the Tesla Nitrogen Company.~~ ^{propounded by the Tesla Nitrogen Company.}

The "Tesla Transformer" ~~under its present~~ ^{under its present} ~~production of~~ ^{production of} ~~electrical effects of virtually unlimited power, surpassing~~ ^{electrical effects of virtually unlimited power, surpassing} ~~even those of lightning, as has been demonstrated in actual experiments~~ ^{even those of lightning, as has been demonstrated in actual experiments} ~~by the inventor.~~ ^{by the inventor.}

The "high frequency" or so-called Tesla currents ~~have the~~ ^{have the} ~~peculiar property of~~ ^{peculiar property of} ~~creating the direct effect~~ ^{creating the direct effect} ~~of nitrogen, causing the gas to combine with~~ ^{of nitrogen, causing the gas to combine with} ~~a lesser expenditure of energy.~~ ^{a lesser expenditure of energy.}

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attenuated are so necessary for the highest efficiency.

Third, by virtue of the peculiar nature of Mr. Tesla's transformer, he is enabled to produce a certain tonnage of product with such a small amount of apparatus and a consequently reasonable investment as to multiply a thousand-fold, the capacity efficiency of his plant. This item is of vast importance in connection with this subject. Many experimenters have produced nitric acid from the atmosphere and there are now some very large plants engaged in this industry, one particularly in Norway, that involves upwards of \$50,000,000, and which will absorb some 200,000 horse power when it is fully expanded, but without exception all these efforts have resulted in a first cost of apparatus so great that the interest and maintenance alone thereof puts a fixed charge upon each ton of the product that has heretofore rendered the business indifferently attractive to capital. Ignoring, there-

for the moment, the increased efficiency claimed by Mr. Tesla, or his novel method of burning the atmosphere, and granting only that he shall burn it as it has been done before by ^{assuming} ~~attenuated~~ ^{the old process, the commercial} ~~that his devices are applied to the old process, the commercial~~ ^{advantages secured will still be such as to make the cost of the} ~~apparatus from \$100, per ton of output to \$2 or less, it simply~~ ^{of the proper absolutely certain if power can be had at a reasonable price, for} ~~some time to get power at a sufficiently reasonable price to make~~ ^{the cost of the product absolutely certain.} ~~the floor, instead of costing 80-100 dollars, per ton of annual product, will only call for an~~ ^{and its sale (and all nitrate prepared thus from the atmosphere} ~~are pure, sold from \$100 to \$200, per ton, and even the crude~~ ^{of commerce, such as the Chile saltpeter, with 5% of} ~~100-200 dollars per ton or less, for 55% and better.~~ ^{impurities, sold for \$55, and better.} ~~small charge of investment of \$5, or \$10, per ton of put-~~ ^{put becomes.} ~~The operation of these plants, like those of hydro-~~ ^{electric installations, require but little labor.} ~~There is no~~ ^{and care.}

part ^{of the plant} ~~of the plant~~ subject to rapid ^{deterioration} ~~wear and tear~~, in fact, most of it is good for ^{centuries} ~~one hundred years~~, and consists principally of brick ^{and metal and is good for centuries} ~~buildings, transformers, brick or tile construction chambers and equipping powers on their equivalent~~. The process is a continuous one and once started requires no manual labor. ^{electrically} ~~electricity~~ continuing to burn the atmosphere into nitric fumes, which in turn combine with water to make nitric acid, and this goes on until the ~~current~~ current is switched off, and immediately recommences when the ~~current~~ current is ^{again} switched on. There is no loss upon the discontinuing of the process for an hour, a day, a month or a year, ^{other than} except that ~~due~~ due to plant lying idle and carrying its ^{no small} ~~burden~~ of interest. It is obvious, therefore, that it ~~only remains to obtain power at a sufficiently reasonable price~~ ^{by the use of this revolutionary process a cost can be built up} to make an almost ~~unlimited~~ industry of this ~~sort~~ with a very reasonable investment of capital yielding annually a return many times the first cost.

The Tesla Nitrates Company owns the exclusive rights under the United States patents granted to ~~Mr.~~ ^{and} Tesla, applicable to the manufacture of nitrates from the atmosphere, ^{which are the following:} ~~which are the following:~~ ^{It will also own any} ~~his future inventions which they shall be made, relative~~ to this subject, ^{improvements he may make} ~~and use for the benefit of his constituents and advisors.~~ ^{xxxx through absolute} It is ~~proposed~~ ^{proposed} to immediately make a demonstration of the ~~valuable advantages of the novel process with a model plant on the commercial magnitude in the immediate vicinity of New York City, where experts and investors may see for themselves the practical application of these inventions, in a full sized unit apparatus.~~ ^{his and judge for themselves of their value.} In making this test, Mr. Tesla will have at his disposal, a plant that has already cost over \$200,000, a large part of which will be immediately available. ~~It is estimated that this test will involve an expenditure of \$25,000~~ ^{will be ample to run}

ishing of the additional apparatus, partly for attendance and
all expenses in the connection. Incidentally the plant will serve
operation and partly for the very full and exhaustive demonstra-
the important purpose of extensively testing the latest improve-
tion which it is proposed to be made.
prior to their application on the large scale contemplated.

XXXX Eff. Tesler is now devoting himself to
the perfection of plans for ~~small~~ large ^{installation} plant
being controlled in this work by a ~~small team~~
of international experts
practical engineers, who ~~has been for a long time~~
~~has been for a long time~~
a long experience in the fixation of Nitrogen
by the old method and is thoroughly familiar
with all ~~the~~ facts pertaining to the manufacture
and sale of the products. In the near
future X X

PROSPECTUS FOR MR. TESLA'S NITRATES COMPANY.

His discovery
Mr. Nikola Tesla, whose ~~inventions in high frequency~~
~~adventures in the field of electricity~~ have formed the basis of so many ~~of the~~
more recent practical applications of electricity, and which by
~~their world-wide recognition have given him a prominent~~
~~position in the field of electricity, and, by a series of discover-~~
~~ies extending over many years, and all protected by valid patents~~

has evolved
a new and
efficient
process for

~~the fixation of atmospheric nitrogen, and the~~
~~the fixation of atmospheric nitrogen, and the~~
~~the oxygen of the atmosphere~~
~~the oxygen of the atmosphere~~

~~the oxygen of the atmosphere~~ which, by its
tremendous value and wide-reaching influence, bids fair to outrank
many times his wonderful invention of the alternating current motor.
~~his work in this field, and his own, and his own~~ - (over.)

First, that his high-frequency electric discharges in
the atmosphere give in a much more effective degree a peculiar
electric chemical stress, which brings about this most difficult
of combinations; a stress which all workers in this field have
recognised for years as being one which not only must be of
tremendous power, but of almost infinite suddenness. The time
element which has so materially interfered with the success of
other workers in this field, has, by Mr. Tesla's invention, been
almost entirely removed as an objection.

Second, Mr. Tesla's peculiar means of obtaining phenom-
enally high voltages (ranging into the millions of volts) from
apparatus of most moderate dimensions enables him to obtain the

earliest
recognized the immense possibilities of such
a development, and as an article published a few years
ago he made the startling prediction that the ~~the~~
the electric fixation of atmospheric nitrogen would before long develop into
an industry next to that of iron in importance. At that time nothing had been
done towards commercial exploitation. Now time has his foresight is
shown by the fact that in several countries enormous
plants have been installed since ~~a large number of~~
~~Norway, Sweden, where ammonia is produced, and also oxygen for sulfuric acid.~~
~~Loupons and Bradua. 120,000 tons of sulfuric acid~~
~~for the manufacture of all of these wonderful things in one place.~~

method and apparatus utilizing no more than a few pounds
of the electric energy of the current, and ~~utilizing~~ ^{requiring} for the
first cost so great, ~~that the~~ ^{that the} interest and maintenance charges have rendered the
business ~~unprofitable~~ ^{unattractive} to capital.

business, and possibly attractive to capital.
 The fixation or burning of atmospheric nitrogen
 is effected economically ~~by lightning~~ by lightning discharges, which
 precipitate from four to twenty pounds of nitrogen
 compounds per acre per year, an enormous amount
 when considering their scarcity. This high efficiency
 is due to the great power, suddenness, rapid and volume of
 the discharges, and instant cooling, resulting therefrom.

4. These ^{invaluable} requirements are fulfilled in the new ^{which is the result of years of labor and its cost} ~~specimen~~ process, owned by the Tesla Transformer Company.

5. The "Tesla Transformer" ^{which is possible for obtaining} ~~is available~~ the production of electrical effects of ^{virtually unlimited power, surpassing} ~~as has been demonstrated in actual experiments~~ over those of lightning, by its invention.

4. The "high frequency", or so-called Tesla current, ^{of its frequency} ~~also~~ have the peculiar property ~~of~~ ^{of} exciting the electrical efflu-
dium of it frozen, causing the gas to combine ^{more readily and} with
a lesser expenditure of energy.

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attenuated are so necessary for the highest efficiency.

Third, by virtue of the peculiar nature of Mr. Tesla's transformer, he is enabled to produce a certain tonnage of product with such a small amount of apparatus and a consequently reasonable investment as to multiply a thousand-fold, the capacity efficiency of his plant. This item is of vast importance in connection with this subject. Many experimenters have produced nitric acid from the atmosphere and there are now some very large plants engaged in this industry, ~~particularly in Norway, that involves upwards of \$50,000,000. and which will absorb some 200,000 horse power when it is fully expanded, but without exception all these efforts have resulted in a first cost of apparatus so great that the interest and maintenance alone thereof puts a fixed charge upon each ton of the product that has heretofore rendered the business indifferently attractive to capital.~~ Ignoring, therefore, ~~for the moment, the increased efficiency claimed by Mr. Tesla, or his novel method of burning the atmosphere, and granting only that he shall burn it as it has been done before by electrical~~ ^{of Tesla's} ~~that his devices are applied to the old process, the commercial~~ ^{mainly resulting from the use of} ~~it will be readily seen that it can reduce the cost of the~~ ^{apparatus} ~~advantages secured will still be such as to make the success~~ ^{of the project absolutely certain if there can be had at a reasonable price, for} ~~apparatus from \$100. per ton of output to \$8. or less, it simply~~ ^{remains to get power at a sufficiently reasonable price to make} ~~of the project absolutely certain if there can be had at a reasonable price, for~~ ^{the price of the product absolutely certain.} ~~remains to get power at a sufficiently reasonable price to make~~ ^{Pure nitric acid} ~~the price of the product absolutely certain.~~ ^{he finds, instead of costing 80-100 dollars per ton of annual product, will cost only for an} ~~he finds, instead of costing 80-100 dollars per ton of annual product, will cost only for an~~ ^{and its salts (and all nitrates) prepared thus from the atmosphere} ~~and its salts (and all nitrates) prepared thus from the atmosphere~~ ^{are pure - sold from \$100. to \$200. per ton, and even the crude} ~~are pure - sold from \$100. to \$200. per ton, and even the crude~~ ^{articles of commerce, such as the Chili saltpeter, with 5% of} ~~articles of commerce, such as the Chili saltpeter, with 5% of~~ ^{100-200 dollars per ton on the spot (but of course)} ~~100-200 dollars per ton on the spot (but of course)~~ ^{impurities, sell for \$55. and better.} ~~impurities, sell for \$55. and better.~~ ^{and a small charge of investment as for or 100 per ton of put-} ~~and a small charge of investment as for or 100 per ton of put-~~ ^{put becomes.} ~~put becomes.~~ ^{The operation of these plants, like those of hydro-} ~~The operation of these plants, like those of hydro-~~ ^{electric installations, require but little labor.} ~~electric installations, require but little labor.~~ ^{There is no electric} ~~There is no electric~~ ^{and care.} ~~and care.~~

4. Their ~~immense~~ ^{enormous} ~~simplicity~~ ^{simplicity} removes one
great obstacle which has so practically ~~retarded~~
progress with the success of the old method and ~~applied~~
4. Their means for generating enormous electrical
pressures with ~~operation of the~~ ^{operation of the} ~~invention~~
discharges, ~~avoiding~~ ^{avoiding} the ~~production~~ ^{production} of ~~dis-~~
charges of arcs of the great length and volume
so necessary to the highest efficiency.

4. They ~~also~~ ^{also} ~~allow~~ ^{allow} possible ~~operation~~ ^{operation} ~~units~~
of any capacity, however great, to ~~run~~ ^{run} the ~~at~~
at any desired rate and ~~thus~~ ^{thus} ~~increase~~
a thousand fold the effectiveness of the plant.
The ~~rate~~ ^{rate} ~~operation~~ ^{operation} may be likened to a turbine
running at a stupendous speed, while that ~~the~~
~~operation~~ ^{operation} ~~is~~ ^{is} comparable to
an old fashioned engine turning slowly. For
the same performance the latter is overpowered
more cumbersome and expensive. ~~Therefore~~
~~a great saving in the cost of the plant~~
~~and a great saving in the cost of the plant~~

4. This has of vital importance to
the enterprise reducing as it does, to a mini-
mum the first cost ^{the burden of} ~~and~~ ^{of} ~~fixed~~ ^{fixed} charges. To
illustrate, ~~namely that~~ ^{disregarding} ~~the~~ ^{the} ~~cost~~ ^{cost}

part ^{of the plant} ~~of the plant~~ subject to rapid ^{deterioration} ~~destruction~~ in fact, most of it is ^{good for one hundred years} ~~good for one hundred years~~ as it consists principally of brick ^{and metal and} ~~buildings~~ ^{good for centuries} ~~transformers~~, brick or tile ^{excitation chambers and equipping powers or their equivalent} ~~excitation chambers and equipping powers or their equivalent~~. The process is a continuous one and once started requires no manual labor, ^{it is electrically} ~~it is electrically~~ continuing to burn the atmosphere into nitric fumes, which in turn combine with water to make nitric acid, and this goes on until the ~~current~~ ^{current} is switched off, and immediately recommences when the ~~current~~ ^{current} is ~~again~~ ^{again} switched on. There is no loss upon the discontinuing of the process for an hour, a day, a month or a year, ^{other than} ~~except~~ that ^{the} ~~due to~~ plant lying idle and carrying ^{no small} ~~its burden~~ of interest. It is obvious, therefore, that ~~it only remains to obtain power at a sufficiently~~ ^{by the use of this revolutionary process a cost} ~~reasonable price to make an almost established industry of this~~ ^{can be built up} ~~process~~ with a very reasonable investment of capital yielding annually a return many times the first cost.

The Tesla Nitrates Company owns the exclusive rights under ^{the} ~~the~~ United States patents granted to ~~Mr.~~ ^{and} Tesla, applicable to the manufacture of nitrates from the atmosphere, ^{which are the following:} ~~which are the following:~~ ^{It will be our aim} ~~to make his future inventions when they shall be made, relative~~ ^{improvements he may make} ~~to this subject, and we get the benefit of his assistance and advice.~~

^{insert paragraph here} ~~It is proposed to immediately make a demonstration of the~~ ^{salient advantages of the novel process with a model plant} ~~on the commercial magnitude in the immediate vicinity of New York~~

City, where experts and investors may see ^{for themselves} ~~for themselves~~ the practical application of ^{his} ~~these~~ inventions, ^{and judge for themselves of their value} ~~in a full sized unit~~ apparatus. ~~In making this test, Mr. Tesla will have at his disposal, a plant that has already cost over \$800,000, a large part of which will be immediately available.~~ ^{It is estimated that} ~~this test will involve an expenditure of \$25,000 for the test~~

~~will be ample to meet~~

lating of the additional apparatus, partly for attendance and
all expenses in the connection. Incidentally this plant will serve
operation and partly for the very full and exhaustive demonstra-
tion which it is proposed to be made.
The important purpose of extensively testing the latest improvements
prior to their application on the large scale contemplated.

XXXX # Teale is now devoting himself to
the perfection of plans for ~~the~~ ^{installation} a large plant
being installed in this work by a ~~small team~~
practical ^{of international} engineers. He has ~~been~~ ^{been} for a long time
~~his~~ ^{his} ~~experience~~ in the fixation of Dr. Unger
by the old method and is thoroughly familiar
with all ~~the~~ facts pertaining to the manufacture
and sale of the products. In the near
future X X

NIKOLA TESLA,
PRESIDENT

COLUMBIA
Spec

TESLA NITRATES COMPANY

165 BROADWAY

NEW YORK

Dec. 12 1904

Tesla,
New
To C
a.l.

40032E

My dear Dr. Scherff

The T. Electro-therapeutic Co and the T. Population
Co will be incorporated next week.
My new company is located in Bridgeport
and is doing a great thing. This really seems
a unique revolution in medicine. I have
a scarce and important skill and we have
personally effected. We expect to increase
our work this week and we are keeping our
new work by night.

Truly

N. Tesla

NIKOLA TESLA,
PRESIDENT.

TESLA NITRATES COMPANY

165 BROADWAY

NEW YORK